

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

| | | | |
|---|--|--|----------------------|
| Applicant's or agent's file reference IPA117WO | FOR FURTHER ACTION | | See Form PCT/PEA/416 |
| International application No. PCT/EP2005/000932 | International filing date (day/month/year) 26.01.2005 | Priority date (day/month/year) 30.01.2004 | |
| International Patent Classification (IPC) or national classification and IPC INV. H04Q11/00 | | | |
| Applicant TECHNISCHE UNIVERSITÄT BERLIN et al. | | | |
| <p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> | | | |
| <p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p> | | | |
| Date of submission of the demand 23.11.2005 | | Date of completion of this report 03.05.2006 | |
| Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016 | | Authorized officer Meurisse, W Telephone No. +31 70 340-4007 | |



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2005/000932

Box No. I Basis of the report

1. With regard to the **language**, this report is based on
- ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3(a) and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4(a))
 - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

Description, Pages

1-24 as originally filed

Claims, Numbers

1-23 as originally filed

Drawings, Sheets

1/6-6/6 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|------------|
| Novelty (N) | Yes: Claims | 2-15,17-23 |
| | No: Claims | 1,16 |
| Inventive step (IS) | Yes: Claims | |
| | No: Claims | 1-23 |
| Industrial applicability (IA) | Yes: Claims | |
| | No: Claims | 1-23 |

2. Citations and explanations (Rule 70.7):

see separate sheet

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/EP2005/000932

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1 Reference is made to the following document:

D1 : WO 98/33287 A (HILL ALAN MICHAEL ; BRITISH TELECOMM (GB)) 30 July 1998
(1998-07-30)

2 INDEPENDENT CLAIM 1

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.
Document D1 discloses (the references in parentheses applying to this document):

A hybrid optical network (Fig. 6, page 10 line 27 - page 12 line 17) comprising:

- a single channel optical ring network
- a plurality of ring nodes
- a star subnetwork comprising (Fig. 2 page 6 line 24 - page 9 line 3):
 - a central wavelength router (Fig. 2 ref. 301,302,303)
 - a plurality of combiners (page 6 line 33 - page 7 line 3)
 - a subset of the ring nodes including a tunable transmitter and a tunable receiver (page 8 lines 3-7, page 9 lines 1-3)
- means to assign a specific wavelength to data packets determining the routing of the packets through the central router (page 8 lines 3-6)

3 INDEPENDENT CLAIM 16

3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 16, which is corresponding to network claim 1, is not new in the sense of Article 33(2) PCT for the reasons mentioned in point 2.1 above

4 DEPENDENT CLAIMS 2-15, 17-23

**INTERNATIONAL PRELIMINARY
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Dependent claims 2-15 do contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the EPC with respect to novelty or inventive step, the reasons being as follows:

The features are either disclosed in D1 or constitute a slight constructional change in the network or method of claims 1 and 16 resp. which comes within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can be readily contemplated in advance.

Additional remarks:

a) The entire set is always considered to be one of its subsets. Furthermore, D1 clearly suggests that the central hub can be distributed and the different routers are connected to subsets of the terminals. Hence, there is implicit disclosure of a ring network with a subset of its nodes connected to a central hub/router (see D1 page 6 line 24 - page 7 line 19).

b) Figure 5 shows TON's or Telephone Optical Networks which comprises a number of combiners/splitters shown as little branches which also appear further down the distribution path and hence combine signals from multiple sets of transmitters. Furthermore, D1 explicitly discloses that groups of terminals are connected via couplers to the optical fibre connected to the central hub (see D1 page 6 line 33 - page 7 line 3). The statement made by the applicant that the combiners are connected to a single node is not correct in view of D1 page 2 lines 10-17. The transmitters can belong to different "nodes".

Point a) and b) above address the arguments given by the applicant against the objections raised in the Written Opinion given by the IPEA.